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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
HARTMAN JR, RONALD D	

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/688,865	PROCHAZKA, ARTHUR	
	Examiner	Art Unit	
	Ronald D Hartman Jr.	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-24 are presented for examination.

Minor Informalities

2. The claims should start with the phrase "what is claimed is:"

Information Disclosure Statement

3. The listing of references in the specification, specifically the background of the invention ([0003] – [0005]) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Objections

4. Claims 1-24 should have all the reference numbers deleted since they do not serve to limit the claimed invention and since they are not given patentable weight.

Claim 3, line 1, insert "the" before "detector".

Claim 5, line 2 recites "a bony mastoid *process*". It is unclear as to what is exactly meant by "*process*".

Claim 6, line 1, "overlying" should be changed to "is positioned over".

Claim 8 should be reworded for a Markush grouping. For example, "the controller causing a body part to move by doing one from the group consisting of stimulating muscles, stimulating nerves, controlling an active orthosis or controlling a prosthesis."

Claim 11, line 2, "the temporal pattern" and "the intensity" both lack antecedent basis.

Claim 15, line 2, recites "a springy headpiece of the type used in earphones" and the specification does not adequately describe what is exactly meant by these features, other than to simply repeat the aforementioned features, so that one of ordinary skill in the art would have an adequate understanding of the claimed invention.

Claim 18, line 3 recites "the persons hand" and this feature lacks proper antecedent basis.

Claims 19-20, line 1, change "including" to "includes".

Claims 22-23, line 1, change "being" to "is".

Claim 24, line 2 delete "such" and replace with "the" and change "use" to "uses".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-6, 9-16 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nemirovski, U.S. Patent Application No. 2002/0143242, in view of Yoshizawa et al., U.S. Patent No. 4,392,244.

As per claims 1 and 24, Nemirovski teaches a method comprising:

- attaching a detector, adapted to detect vibrations, to a persons head (e.g. Figure 2b element 12; "sensor" and [0035]; "the sensor ... in the ear); and
- using the vibrations to trigger a control signal for control of a device or process (e.g. [0040], [0041] and [0052]; "machinery, wheelchair, robotic arm or computer).

As per claims 1 and 24, Nemirovski does not specifically teach detecting vibrations in response to the contact of upper and lower teeth.

Yoshizawa teaches a system for controlling a device whereby a user clicks upper and lower teeth together in order to create a control signal for a controller located in a device (e.g. C5 L38-52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Yoshizawa into Nemirovski for the purpose of allowing greater flexibility from a control standpoint in the event that the user is unable to move his/her tongue.

As per claim 2, Nemirovski teaches the sensor communicating with a controller that controls a device or process (e.g. "controlling computer functions"; [0046]).

As per claims 3-4, Nemirovski teaches the sensor having a microphone and a transmitter (e.g. Figure 1c; elements 34 and claim 5).

As per claim 5, Nemirovski's combined system (Nemirovski in view of Yoshizawa) teaches placing the microphone so as to receive signals using the mastoid of the head (e.g. See Yoshizawa; C3 L61-65; "mastoid").

As per claim 6, although Nemirovski's combined system does not specifically teach the detector being positioned over a temperomandibular joint, this joint is well

known to be within the confines of a human head, and since Nemirovski's combined system teaches the use of the microphone for picking up vibrations from the head, the incorporation of a feature whereby a specific joint of the head is used for obtaining the vibration signals would have been obvious to one of ordinary skill in the art at the time the invention was made since the joints or bones in the head are used for picking up the vibrations, and the use of a particular joint would not change or affect the overall operations of the system, but would merely add a specific joint to the otherwise entirely contemplated system disclosed by Nemirovski's combined system.

As per claim 9, Nemirovski teaches acoustic and electromagnetic signals being used for communications (e.g. [0042]).

As per claim 10, Nemirovski teaches the controller being physically separated from the person wearing the detector (e.g. "remote"; claims 5, 7, 22, 24 and 26).

As per claim 11, Nemirovski teaches the device is triggered according to a temporal pattern or the intensity of the detected vibrations (e.g. "frequency"; [0070] and [0071]).

As per claims 12-13, Nemirovski teaches that the device being controlled is a computer or other electronic device (e.g. [0040]).

As per claim 14, although Nemirovski's combined system teaches a headband (e.g. See Yoshizawa ; C7 L22-27 and C7 L34-39), Nemirovski's combined system does not specifically teach the use of an elastic headband. However, since the use of elastic was well known at the time the invention was made, and since elastic is a material that is known to possess superior stretching properties, Official Notice is taken with respect to elastic headbands, and its inclusion into Yoshizawa would have been obvious at the time the invention was made since it would provide an obvious means by which the headband would fit different sized heads.

Claim 15 is rejected as being unpatentable over itself. That is, claim 15 sets forth features that, based on the presented claim language, are features that were known at the time the invention was made, and therefore this claim is rejected as being anticipated by itself since an earphone is a feature that would obviously be incorporated into Nemirovski's combined system so that the detector may be easily affixed to the user's head, and this would have been obvious to one of ordinary skill in the art at the time the invention was made.

As per claim 16, Nemirovski's combined system teaches the use of glasses (e.g. See Yoshizawa; C7 L6-7).

As per claims 19-20, a power source, a receiver, an amplifier, an output signal generator, a filter and a logic circuit are all features that are inherent to a computer and

since Nemirovski's combined system teaches sending control signals to a computer, these features are believed to be inherent to Nemirovski's teaching of controlling of a computer.

As per claim 21, Nemirovski teaches the sensor including a power source, a vibration sensor, an amplifier and a radio transmitter (e.g. [0040] and [0048]).

As per claim 22, Nemirovski teaches the use of a passive device (e.g. [0045]) and since a transponder is a radio transmitter-receiver activated for transmission by reception of a predetermined signal, and since this feature is adequately contemplated by Nemirovski, the incorporation of a transponder would have been obvious to one of ordinary skill in the art for allowing for radio signal to be transmitted and received.

As per claim 23, although Nemirovski's combined system does not specifically teach the use of an adhesive, Official Notice is taken with respect to this feature, and its incorporation into Nemirovski's combined system would have been obvious to one of ordinary skill in the art at the time the invention was made in order to allow for a convenient and well-known way of temporarily affixing the microphone to a person's head.

7. Claims 7-8 are rejected as being unpatentable over Nemirovski's combined system, as applied to claim 1 above, and in further view of Simmons, U.S. Patent No. 2003/0120183.

As per claim 7, Nemirovski's combined system does not specifically teach a controller causing a body part to move, in response to control signal initiated by the wearer or the sensor.

Simmons teaches a system whereby a user may control devices, such as wheelchairs, based on control signals developed via a mouth input means (e.g. Abstract and Figures 8-9 and claim 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Simmons into Nemirovski's combined system for the purpose of proving handicapped persons the ability to move around in a wheelchair in the event that the person's limbs are unable to move due to permanent or temporary paralysis.

As per claim 8, Nemirovski's combined system (Nemirovski in view of Yoshizawa in view of Simmons) teaches an orthosis (e.g. See Simmons; Figure 1).

8. Claim 17 is rejected as being unpatentable over Nemirovski's combined system, as applied to claim 1 above, and in further view of obviousness.

As per claim 17, although Nemirovski's combined system does not specifically teach the use of implants, their incorporation into Nemirovski's combined system would

have been obvious at the time the invention was made for the purpose of allowing a sensor that is permanently affixed, thereby allowing for a sensor means that the person will not have to worry about loosing.

9. Claim 18 is rejected as being unpatentable over Nemirovski's combined system, as applied to claim 1 above, and in further view of Petrofsky, U.S. Patent No. 4,558,704.

As per claim 18, Nemirovski's combined system does not specifically teach a cuff having electrodes which stimulate muscles in a persons hand, the cuff having s controller which generates pulses which are transmitted to the muscles of the person hand (e.g. See Petrofsky; Figures 1-2 and Abstract and C4 L1-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the teachings of Petrofsky into Nemirovski's combined system for the purpose of allowing a person the ability to move the person's hand in the event that the person is disabled (e.g. See Figure 4).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald D Hartman Jr. whose telephone number is 703-308-7001. The examiner can normally be reached on Mon. - Fri., 11:30 am - 8:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RAMESH PATEL
PRIMARY EXAMINER 7/26/04
For Anthony Knight

Ronald D Hartman Jr.
Examiner
Art Unit 2121